

Thesis.

That mankind originated as a common family—

Most probably on a continent in the Indian Ocean—

Certainly within the Tropics.

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James Bryce MVO

Γνωθὲ σεαυτὸν

The proper study of mankind is man.

καὶ γνῶσεσθε τὴν ἀλήθειαν καὶ ἡ
ἀλήθεια ἐλευθερώσει ὑμᾶς

Part I

The Darwinian Theory.

Twenty years ago when the doctrines of Special Creation and Derivation as propounded by the different schools with regard to species were conflicting and the mind of the scientific world was in a transitional state upon the subject, Charles Darwin published his Origin of Species.

From that day the position assumed by Lamarck and published by him near half a century before came more and more into favour.

The two laws formulated by Mr. Darwin are simply an attempt

Philosophie Zoologique.
Lamarck. Paris 1809.

3. logically to account for the Theory of Derivation as promulgated by Lamarck.

The book gained a position at once calling forth much bitter controversy both on scientific and religious grounds but the success of the attempt to revolutionise science was very rapid.

The veteran Lyell gave in his adhesion and set himself to reconstruct the work of a lifetime according to the newer interpretation.

In Zoology more difficulty was felt. The greatest living authority while agreeing with the first principles could not see his way implicitly to accept natural selection as a sufficient explanation of the variation. Agassiz entered the lists against it, but fortunately the theory like ^{the} Falstaff had the merit of being not only witty in itself, but the cause of wit in others.

A new generation began to grapple

Darwiniana. Asa Gray 1876.
(P. 238)

The Doctrine of Descent and Darwinism
Oscar Schmidt. 1875. (P. 128)

Principles of Geology (10th Edition)
Charles Lyell 1866.

Manual of the Comparative Anatomy
of the Vertebrata. (Concluding Chapter).
(same subject published separately)

Derivative Hypothesis of Life and Species
Richard Owen.

An Essay on Classification.
Louis Agassiz. 1859. (P. 253).

with a subject now made attractive and soon for a time distanced all competitors.

There is no doubt that the scientific eminence of such men as Professors Huxley, Haeckel and Schmidt is due in great measure to the peculiarly wide field for ingenious monistic theorising arising out of Mr. Darwin's two laws.

In all departments of Biology older men began to reconsider their opinions and those who held out may be said at the time to have had the worst of the battle.

And now this great theory, having conquered religious prejudice and demonstrated in the language of Lewis that High Church Chemistry and Evangelical Geology are absurd and that nature must be approached with a mind free from preconceived bias is in danger of becoming the bulwark of a prejudice

Man's Place in Nature. Huxley. 1863.

The History of Creation.
Dr. Ernest Haeckel.

Problems of Life and Mind (Vol. 1) Lewis.

which may be mis-called scientific.

Facts are observed only in the light of evolution by natural and sexual selection and the men who began by casting ^{out} old and crude notions have become as arrant fetish worshippers as the religio-philosophers they superseded. As the philosophy of Aristotle was said to have put a straight-jacket on the mind of Europe for three hundred years so the Darwinian Philosophy seems to bid fair to keep us in a groove to the retardation of scientific truth.

The attitude of the individual scientists is interesting; naturalists fall very well into two classes, those to whom facts are a primary consideration, theory secondary, and those with whom the inverse is the normal method. Compare the rash statements and ingenious monistic revisions of Haeckel

with the wide deep knowledge and calm deliberative utterances of Peschel, the brilliant special pleading of Huxley with the judicial sagacity of Owen. Huxley and Haeckel with a good knowledge of facts are most brilliant theorists, Owen and Peschel are cautious not to go beyond the immediate conclusions which their facts warrant.

That the Darwinian Theory has been the most important factor in the great sum of causes to which the rapid advancement of science in these later days is due it would be absurd to deny: but on the other hand to affirm that the two laws of natural and sexual selection are sufficient to account for the evolution and development of distinct species would be equally absurd. That the two elements enter largely into the explanation is

The Races of Man. Oscar Peschel.

7. undoubted. They are true but not the whole truth.

This we conceive to be the position of modern science with regard to the Darwinian Development.

Huxley many years ago stated the case with great fairness thus. "A true physical cause is however admitted to be such only on one condition - that it shall account for all the range of phenomena which come within the range of its operation." "If it is inconsistent with any one phenomenon it must be rejected, if it fails to explain any one phenomenon it is so far weak so far to be suspected though it may have a perfect right to claim provisional acceptance. Now Mr. Darwin's hypothesis is not so far as I am aware inconsistent with any known biological fact

Man's Place in Nature
(P. 104)

8. On the contrary, if admitted the facts of
~~Development~~, Geographical Distribution, of
Comparative Anatomy, and Paleontology
become connected together and exhibit
a meaning such as they never possessed
before; and I for one am fully convinced
that if not precisely true the hypothesis
is as near an approximation to the truth
as for example the Copernican Hypo-
thesis was to the true theory of planetary
motion. But for all this our acceptance
of the Darwinian Hypothesis must be
provisional so long as one link in the
chain of evidence is wanting, and so
long as all the plants and animals
certainly produced by selective breeding
from a common stock are fertile and
their progeny fertile with one another
that link will be wanting. For so long
selective breeding will not be proved

9. competent to do all that is required of it to produce normal species."

Over sixteen years have now elapsed since this was written, thousands of specimens have been gathered and carefully picked and docketed, science has more than doubled her facts, but the want of intermediate forms between well marked species is as great as ever. On the other hand facts have been cropping up continually which cannot be explained by or are antagonistic to the Darwinian view.

"The Ammonites that died out during the Cretaceous period previously began to pass into so-called *Trilete* forms. Their shells originally curled into a paniform spiral subsequently became perpendicularly spiral, expanded themselves lineally or bend like a bow, a hook

The Races of Man. Peschel.
(P. 17)

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a shepherd's crook or at least distend the
selves so much that the individual con-
volutions are no longer in contact with
each other.

Here then is a group of Zoological
forms in which prejudicial characters are
propagated through succeeding generations
becoming more and more detrimental
and finally becoming incompatible
with the life of the family. A more
complete controversion of natural selection
could not well be imagined than that
by a progressive development of cripple-
ness obliterating entire groups. Were the
method of Professor Haeckel adopted
we might here add that this fact alone
would be quite sufficient entirely to
overthrow the hypothesis of natural
selection. Surely then we who are more
humble may be excused if we con-

"That nature has also other methods of procedure, that the law of natural selection is not always in force, but is sometimes dominated by these methods.

In the case of the lower Protists we can conceive of no reason for a further development. In the fabulous Moneron generated according to Haeckel from the carbon compounds: the Bathybius Haeckel which covers in large masses the sea bottom and is the basis of all animal life (!) or in the most elementary amorphous forms, we can conceive of no struggle for existence nor sexual selection. Yet the Darwinian Hypothesis would have us believe that it is from such as these and precisely by these processes that all the highly differentiated forms of animal life have sprung. The Moneron has no sex and further development is evidently

History of Creation (Vol. II)

(P. 49)

12.
detrimental to its life as is shown by the disappearance of the large masses in the next.

Large and powerful animals have become extinct, while weak and puny forms coexist, and so far as we know, coexist with them remain to this day. Witness the extinction of the *Machairodus* and the persistence of the hare: the more highly specialised and perfect form has passed away, while the cruder and less perfect has remained. But it is a recognised canon in Biology, that the larger, more powerful, and highly specialised forms require more space in which to develop - compare the analogous forms of the Old and New Worlds, the Tiger with the Jaguar, the Elephant or Hippopotamus with the Tapir, or both with the Zoological forms of Australia. Hence we contend the former forms must have had the larger distribution.

Journal of the Anthropological Institute of
Great Britain. W. Boyd Dawkins on, The
^(pp. 153-154)
Antiquity of Man.

15. That the former distribution of the
Machairodus must have been of large
extent we may instance that of its con-
gener the Tiger

The tiger roves from the Caspian Sea
to the Amoor where the Russians in their
advance twenty years ago became aware
that his habitat extended as far as an
even beyond that of the fur bearing
animals. While in the south he has pene-
trated to the extreme point of Asia in the penin-
sula of Malacca. He can even swim across
an arm of the sea to destroy hundreds of
human beings annually in the island of
Singapore.

Obviously then as this creature must
have had at least as wide a distribution as
the Reindeer, the Hare, or the recently extinct
Irish Elk, we must come to the conclusion
that the cause of extinction cannot have

Races of man.
(P. 414)

Quarterly Journal of the Geological Society
of London. W. Boyd Dawkins on Bos Longi-
frons, Irish Elk &c. Vol ~~XXX~~
Vol. XXXI. The Mammalia found at Windy Knoll
W.B. Dawkins (P. 246)

14. been severe climatal change affecting a circumscribed area. Indeed the climate change theory must altogether go to the wall as its very form and power of making migrations as with the Lion and Tiger must have made it less subservient to climate change than its contemporaries above mentioned.

Still less can want of food or the fact of mans presence have been the cause of its disappearance, as the Reindeer, Bison Irish Elk and numerous other animals overlapped it in point of time and would have afforded ample means of subsistence. When it grew old it could like its nearest living relatives have fallen back upon man himself. According to Gerard and Livingstone a man-eater is always an old lion which unable to follow and hunt

Mammalia found at Windy Knoll.

5. The more active form falls back when superannuated upon the "old of Creation" as despite of his faults the handiest means of subsistence available.

In India also it is well known that when a tiger becomes a man-eater he is from that moment a hunter after this particular form of delicacy and leaves his old quarry seeking "fresh fowl and pastures new" becoming from then forth a connoisseur in the matter of food.

It is precisely these forms that can maintain the struggle for existence most successfully against savage man. They are the checks to population the want of which seem to be so much deplored among certain sections of civilised communities. The intrusion of the British in India has been the death knell of the tiger, it being previous to this most plentiful.

For evidence that this supply of food, at least, did not fail, see Broca's address at the opening meeting of the French Association for the Advancement of Science at the Havre Congress in which he shows that the Canstadt Cromagnon and Furfooz races and also a later true brachycephalic race which seems to have lasted down to the time of the Aryans or at least past the time of the Machairodus, have formed a continuous line which was never broken so that at no time from the beginning of the first till the appearance of the last has Europe been without the presence of man.

These powerful carnivores then are the animal forms which up till the era of civilisation may be said to be the dominant.

Journal of the Anthropological Institute
Vol. VIII p. 184.

And yet, supplied with food in an ample manner, capable of roving immense distances in search of it, and more capable of resisting changes of climate either in the direction of heat or cold than almost any other class in the Animal Kingdom, here is one of the most powerful of that class, which has become extinct with apparently every change in its favour, while weak and defenceless animals, helpless in every respect as it was favoured, have survived.

We have demonstrated clearly that this animal cannot have become extinct through any cause arising from the struggle for existence; neither can it have been obliterated by climatal change.

But the fact of its disappearance is one which comes within the range

118. of the Darwinian Hypothesis and when it is not competent to explain, therefore in the language of Huxley "It is so far weak so far to be suspected".

"The evolution of new organs or the transformation of old would certainly have required long periods of time during which the novelty, if not exactly detrimental, must at least have remained neutral in the struggle for existence"; of course in a case of this kind the functional formation of organs would mean nothing, it is only when a great advance has been made that structural formation can be said to be modified by function; as a rider to this it may be stated that we have ample evidence that organs may exist, before advantage be taken of them.

The Races of man (p. 10-17).

19. Even among the most different races of mankind a majority possess vocal apparatus admirably adapted to song although not employed for musical purposes.

The delicate musical ear and splendid voices of the Jubilee Singers is an instance of this. A well educated and thoughtful musician once remarked to the writer that there was a quality in their voices which was altogether a racial peculiarity. It must be remembered that a few generations back their progenitors were savages of a race whose knowledge of the musical art was of the most rudimentary character, and their appreciation of the beauty of the human voice absolutely nil.

It may be mentioned that

The Races of Man (P.P. 10-14)

20. parrot has the power of uttering every vocal sound that man can make, and so far as the mere mechanical faculty of speech is concerned can be taught to speak English much more correctly than many of the lower race. But in its native state it only uses a harsh discordant note or imitates the cries of wild animals and in no case uses the vowel and consonantal sounds employed by man in communicating his thoughts. The organs of speech are so far perfect but there is no vestige of the function.

If the earlier progenitors of historic man were hairy the loss of that hair must have been clearly prejudicial, exposing them as it must have done, to every variation of temperature. Even in the Tropics

Lectures on the Science of Language.
Max. Müller

The Races of Man (pp. 10-14)

21. The difference of the mean temperature during the day and night is very considerable, so also are the climatal variations of the seasons. That this covering is absolutely necessary even in those climes is proved by the fact that man's nearest living relatives the anthropomorphs are copiously supplied in this respect. This want would be even more marked when the restlessness of the race carried them into the cold regions. That the contemporaries of the woolly rhinoceros was naked and hairless there is every reason to believe, more especially as we know that there exists at the present day in Tierra Del Fuego a race of naked fishermen where the glaciers stretch down into the sea.

It has been advanced as

- Races of Man
(P. 31)

22.
an explanation of the loss of the hair
that graminivorous animals such as
horses lose the hair on their bellies when
fed with animal food: but in contro-
version it may be stated that the
Lemurs and many of the smaller
monkeys are accustomed to a mixed
diet showing that animal food does
not operate in this manner on an-
imals much more closely related
to man. Carl Semper saw the Ghost
Lemur kill a mouse with a bite
and then devour it; while Humboldt's
interesting note upon the sagacity
of the Liki monkey would go to show
that this remarkable little animal
is almost entirely carnivorous in
its habits.

Here then is another instance
in which a highly gifted zoological

form was admirably provided with a means of resisting temperature variation: which means it gradually lost through a process so far as can be judged very like experimental natural selection; a perfect converse of the Darwinian Theory.

The existence of the Chemical instinct in birds is a perfectly substantiated fact which cannot be accounted for by the assumption of gradual development.

The Megapodius Turnulus of Australia a bird very much resembling a partridge in size and appearance, first puts down a layer of leaves, branches and plants, then it heaps round this an immense crater-like tumulus composed of earth and stones leaving the first layer uncovered only in the centre. The eggs are placed in this first layer in a circle at exactly

The Universe. F. A. Foucher. M. D. —
(P. 250-8)
Instinct of Chemistry among Builders and
Gleaners.

equal distances and in a vertical position. It leaves the hatching & fermentation of the mass of vegetable matter which it has collected.

The humulus is 150 feet in circumference and from 10 to 14 feet in height, naturally a funnel of a length of 14 feet will keep away atmospheric influences at the same time allowing a means of egress to the young which can fly as soon as hatched.

The *Salicaria cathami* gathers an enormous heap of grasses as large as a haystack in which it lays its eggs, "knowing," says Fouchet quaintly, "as well as we do, that hay heats by drying, it relies upon the warmth for the incubation of its brood which it abandons immediately after laying."

The formation and existence of such habits as these are perfectly inexplicable.

able in the light of the Darwinian Hypothesis, yet they come fairly within "the range of its operation" as special characters.

Fancy entertaining the idea of the layer commencing its development as a single straw and going on straw to straw till at last it reached a point at which the eggs were hatched. The favorite cry of the Darwinists is - Give us time long periods of time are required in which to accomplish these things. But in a case of this kind the advantage of the lapse of a million years more or less in the addition of the various straws is not immediately apparent.

As to sexual selection it may be stated that it is among those members of the Vegetable Kingdom where this law must necessarily be in abeyance.

That we find the forms in most abundance which convey to our minds the ideas of elegance and stateliness.

The wild beauty of the Mountain Ash, and the majestic grace of the Oak have awakened feelings of awe, love, pleasure, and safety, even among the rudest races of men; strong indeed! must have been the qualities which awoke religious sentiments in the breast of the Ancient Druids: and originated the Midsummer Night's Dream of the Teutonic Fairyland, wild, weird, and of surpassing beauty, traces of which have come down to our own time in the charm connected with the Mystic Rowan Tree. The towering Eucalypti of Australia whose tops would overshadow the Pyramids; the gigantic Sequoia of the Sierras; the

Sarawiana.
(P. 207)

27.
Cedars of Lebanon; convey an idea of majestic beauty, together with lasting grace, which the weak puny form of animal life cannot attain unto.

Evidently then the law which according to the Darwinian Hypothesis would be expected to be most in force when anything beautiful is developed is almost entirely inoperative in the production of those objects which possess the qualities of handsomeness in the highest degree. For while Mr Darwin with indefatigable perseverance has demonstrated the manner in which in-breeding is often prevented he has not succeeded in even propounding, a rational method of sexual selection in the vegetable kingdom.

"In the butterflies, particularly

among the Sphingidae the lower wings are coloured with peculiar brightness and are adorned with gaudy eyes, yet this creature conceals its own decorations when at rest while all perception of the peccilling is precluded by its rapid motion when in flight."

In the human race again there may be, and there often is, no perception of beauty even when it is most strongly marked: obviously this has not been the result of selective breeding. "Many finely formed men and women in America and Africa habitually disfigure themselves by placing discs and plugs in their lips and cheeks thereby proving that their taste is still undeveloped".

Peschel quoting Darwin.

The Races of Man
(P.P. 10-14)

Again on the boundary line between the animal and vegetable kingdoms we find forms which for "Fairer Loveliness" excel the poet's dream! Compare the light airy grace of Venus' Flower Basket or the evidence of beautiful design in Nepenthes cup, with all the splendours of the Endymion! "Verily even, Solomon in all his glory was not arrayed like one of these!" — Yet in these instances the idea of sexual selection is inadmissible, and we can find no means of accounting for their beauty by a process of natural selection through the struggle for existence. In connection with this part of the subject we feel called upon to quote a very pleasant remark of Bosc

"Darwin appeals to correlation but as we cannot demonstrate or even imagine the necessity for this correlation his argument has no foundation".

In dealing with the various branches of the subject so far as space would allow, it has been shown that

1st That there are facts incompatible with the idea of the development of species by natural selection. (See arguments upon extinction of *Anomalides*, *Machairodus* &c.).

2nd That special peculiarities have been developed without the aid of Natural Selection (Singing voice of Man and Vocal Utterances of the Parrot.).

The Races of Man
(P.P. 10-14)

3rd That the forms of most beauty and grace have been developed without the aid of Sexual Selection (The Vegetable Kingdom).

4th That there are many facts which Natural and Sexual Selection taken together are not competent to explain (Nepenthe's Cup and Venus's Flower-basket).

Notwithstanding all this however the work of development has gone on successfully. We are therefore shut up to the conclusion that there are other laws which replace or dominate Natural Selection in the instances mentioned.

As to what these laws are Science is still ignorant; or only approximate to them in such vague groupings

as the following:—

"I deem an innate tendency to deviate from the parental type operating through periods of adequate duration to be the most probable nature or way of operation of the secondary law whereby species have been derived one from another"

That this is the true position of recent science with regard to this great hypothesis seems to be borne out by the fact that Owen, Peschel, Huxley, ^{Holliker} Griesbach, Virchow and Max. Müller all regard it as at best only a vehicle—a stage in the journey towards better things. None of them regard it as "A True Physical Cause".

Having shown that the Hypothesis advanced by Mr. Darwin is quite inadequate to account

Derivative Hypothesis of Life and Species (P. 22)

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- Derivative Hypothesis of Life and Species
- 1. The Races of Man
- 2. Manual of Zoology - (On the Primates)
- 3. Die Vegetation der Erde nach ihrer klimatischen Anordnung.
- 4. Cellular Pathology &c.
- 5. Monographie der Pennatuliden
- 6. Lectures on the Science of Language.
- 7. Three Lectures on Mr. Darwin's Philosophy of Language.

for the derivation of species upon all occasions; a careful consideration of the evidence yielded by the principal facts of Anthropology impels us to the assumption of fresh ground upon the origin of species, namely—

When Nature whether by the interbreeding of varieties far apart or the crossing of distinct species at long intervals of time, or in some other manner unknown, gives birth to new and perfectly distinct species in the Animal Kingdom, she projects it so far from its original source that return is impossible.

The sexes of the old and the new whether from mutual disinclination to cohabit or from want of ability to produce fertile varieties cannot bridge over the chasm, and

the power of synthetically producing the old form by the new varieties become extinct. As proof of this we have only to call attention to the fact which has for so long puzzled the Darwinists - the want of intermediate varieties.

The case of the horse - their strongest point - proves nothing, as the distance between the varieties is quite special in character.

On the other hand, in the opinion even of such keen natural selectionists as Oscar Schmidt, the difference between man and the other Primates is wider than generic - that is to say, in other words it is at least a family difference - while the more moderate school assign to man a whole order - the Bimana.

Moreover the science of

Paleontology is quite far enough advanced to enable us to presume that if intermediate forms existed we should by this time have heard of them. In Europe alone three Pleistocene races have been discovered, and two highly organised Tertiary Apes, one in Switzerland, the other in Greece - still there has been no approximation.

Atavism as all animal breeders are well aware has an immense power in preventing the perpetuation of new varieties - Mr. Darwin says: "I paired a mongrel female barbed tail with a mongrel male barbed tail neither of which mongrels had the least blue about them. Let it be remembered that blue barbs are exceedingly rare; that spots as has been already stated were perfectly characterised

The Journal of the Anthropological
Institute of Great Britain. (Vol VII)
(P. 184)

The Races of Man
(P. 31)

(Animals and Plants)
Variations of Plants and Animals. Vol. 1.
(P. 200)

in the year 1696 and breed perfectly true; this is likewise the case with fantails, so much so, that I never hear of white fantails showing any other colour. Nevertheless the offspring from the above two mongrels was of exactly the same blue tint over the whole body and wings as that of the wild rock pigeon of the Shetland Islands, the double black wing bars were equally conspicuous the tail was exactly alike in all its characters and the crop was pure white."

A variety remains stable for over two hundred years, probably in that period of time going through 500 generations, it is crossed with another variety which is also perfectly stable with scarcely any tendency to revert, and, in a single

generation the work of centuries is undone.
 Bear in mind that the ingenuity of
 the breeder can effect in the course
 of a comparatively small number of
 transmissions more than nature has
 been able to accomplish many thous-
 ands of years through countless generations.
 And it cannot be said that we make
 a rash deduction when we say - that
 when the power of atavism is so strong
 as to destroy in a single generation
 the work of many centuries of care-
 fully tended propagation, it must be
 quite powerful enough to entirely
 neutralise the weak and almost pur-
 poseless method pursued by Nature
 according to the Darwinian Hypothesis
 in which the novelty remains
 neutral, ill-marked or detrimental
 during long periods of time
 - and that nature must have some

method by which she overcomes this disturbing factor.

This was early seen by Moulz Wagn and gave rise to the Migration theory that the migration of organisms and the formation of colonies by them is the natural condition of natural selection. But as there are many instances where the idea is inadmissible it is manifestly inefficient.

In the few cases in which anything like a distinct species has been formed within our knowledge it has taken place abruptly. Peschel mentions the case of two species of cockatoos belonging to Mr. Buxton of Norfolk, which have crossed in the open air and produced a hybrid race which, like both its parents, is decorated with a scarlet hood so that creation here

Die Darwin'sche Theorie und das
Migrationsgesetz der Organismen 1848²

Races of man
(P. 10)

seems to be enriched with a new species.

Again as in the case of such rare crosses as between dog and wolf or fox there is ample evidence that in exceptional circumstances, some of them connected with the disposition of the individuals, some with contiguity, that crosses occur much further off than even between distinct species.

We have seen a decided preference for each others society and desire for copulation exhibited by a dog and a cat which neither of them exhibited for individuals of their own species.

In the December of 1840 at the Government Opium Agency, Benares Ghazepoor a Persian tom cat belonging to the engineer of the works crossed with a half-tamed native bitch for

The off-spring (5) partook in varying degrees of the characters of both. The animals were free but within the walls at the time of the cross and the Persian carried food during the time they followed their mother. The birth took place in the back room of the factory, and the individuals were well observed, but as some time had elapsed before the circumstance came to be known and the progeny being very agile, all efforts to secure them were in vain.

In such cases as this all that would be required would be fertility of the new individuals, which would doubtless have more affinity for each other than the old forms. ^{has} This Projection Theory is absolutely necessary to explain the facts recorded within the last few

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few pages, and more particularly the isolation and discontinuity of Animal Species and Genera with each other.

An observation or two upon the 'Darwinistic Method' of research will we think, fitly close this chapter.

Professor Huxley speaking of De Chaule's work, says:—
"Not from any wish to throw suspicion on his veracity but because in my opinion so long as his narrative remains in its present state of unexplained and apparently inexplicable confusion it has no claim to original authority respecting any subject whatever." "It may be fact but it is not evidence".

Just as if any truth bearing upon the subject could be any-

Man's Place in Nature
(1945)

thing else than evidence.

It is not the first time that this distinguished "Lay Preacher" while under the impression that he was hatching a paradox has only given birth to an absurdity. As to the bearing upon the subject, examining the statement now when Du Chaillu is taken as the great authority upon the gorilla we are filled with amazement.

Bescher and Lubbock both quote from his works which have been amply substantiated by recent travellers such as Schweinfurth.

It was Du Chaillu who first called attention to the fact - the Gorilla resembled man in that it was of all creatures of its size the most easily killed. If Du Chaillu did not know the fact that this was from the higher

Lecture on the Agnostic Philosophy. G. H. Mivart F.R.S.
The Lancet Vol. 2. 1879.
(No 14. P. 491)

specialisation of the organs his evidence is all the more valuable from being original. He tells far more about the Gouille than Mr. Wallace, for example tells us about the Chimpanzee yet in this very particular he is contrasted unfavorably with him. The reason is not far to seek Mr. Wallace discovered Natural Selection for himself and is one of its most enthusiastic supporters his facts have a peculiar bias in that direction; Du Chaillu, on the contrary, merely observes nature and tells us what he sees without preconceived bent his facts, consequently, present very perplexing aspects to the Darwinian Theory. Hence the disabling of his judgement, and the contempt thrown upon his facts. Let us remark in conclusion that Du Chaillu's work

has stood the test of time; while Prof. Huxley's position has been ~~noted~~ ^{noted} extreme by later investigators and has been in some degree receded from.

Again Haeckel writes "During the last ten years a great deal of time and trouble have been devoted to the careful examination and measurement of the forms of skulls; which have however not been rewarded by corresponding results - for within a single species as for example within the Mediterranean species the form of skull may vary so much that both extremes are met with within the same species."

This is one of the most important facts elucidated by modern scientific research with regard to the science of Anthropology.

The Evolution of Man.

Numerous important deductions spring from it. As that man's physical ideal is one however much the type of his skull may vary. The dolichocephalic Maori has legends of great beauty and up to the limit of his education displays as much intelligence in the art of war as the more highly favoured races.

Cranological research also demonstrated the fact that to classify mankind in a linear manner according to pithecod tendencies was absurd. But these are not the "Corresponding Results" sought for by Professor Haeckel therefore this branch of work is unimportant.

The "Evidence" of Mr. Hurley and the "Corresponding Results" of Haeckel mean something that will go directly or indirectly to confirm the

Darwinian Hypothesis. Contrast their
 indifference in regard to this class
 of facts with the ludicrous haste man-
 ifested in the acceptance of any-
 thing that tends to confirm their
 pet theories. The Babylonian "Haeckel's"
 basis of all animal life covering
 the sea bottom in immense mass
 is discovered by "Huxley, straightway"
 "Haeckel" makes it one great stage in
 the development of man, the genus
 monera is found upon it. Unfort-
 unately the Challenger Expedition
 cannot find it, it is considered
 to be a vegetable alcoholic decoction.
 And after all the noise made over
 it, when exploded, Professor Huxley
 calmly informs us that his young
 friend Babylonus has not fulfilled
 the promise of his early days.

See Presidents Address and discussion
following at the meeting of the
British Association. 1879.

Such a method of investigation has no claim to be called scientific. It is an aspersion cast upon the fair fame of science. And if such men are great scientists and worthy of all honour it is in despite of not because of such weakness.

Part 2.

Mans Unity of Origin.

The question of Mans Unity of Origin does not depend upon the elucidation of the question of race versus species.

If it were possible for the object of the idea of mans origin as a common family to prove that the principal and most widely diverse groups of the human race were so far apart as to be entitled to the name of species.

The most ^{that} could be said of their labours would be that they had established the possibility of the plural

Hypothesis. The next and most important part of their task would be to prove that they had not diverged. A race of ancestors would have to be shown much nearer them in every respect, or in most respects, than they were to each other. And the development of physical similarities and other points of identity most rigorously accounted for.

On the other hand when it established that the aforesaid differences were merely racial varieties much closer in their characteristics, and requiring the assignation of a classificatory term much more intimate than that involved in the idea of species; that while the human race differed generically at least from the nearest Zoological

50.
forms which we have any evidence of, and in the opinion of the most eminent Biologists it even demanded a distinct order for itself - the whole race must from its internal resemblances be regarded as simply one bona-fide species - the unity of man's origin would follow as a thing of course.

The modern investigations of the laws that govern the derivation of animal forms yield not one little of evidence to support the idea that members of the same species have any other than a common origin.

Necessarily then in assuming the affirmative upon the unity of man's origin some time must be devoted to the consideration of the term species as applied to it.

A careful investigation of the opinions and definitions of Blumback, Buffon, Cuvier, the elder De Caudelle, Quatrefages, Müller, Pritchard, Woodward, Zieselbach and Nichols reveals to us the fact that the two great lines upon which the idea of species is founded are community of likeness and community of descent.

Naturally enough the latter is the factor most insisted upon. The reason of this is plain. A certain amount of likeness is a variable quantity, varying with the individual, the bent of the observer's mind and his powers of observation.

Hence the wonderful diversity of opinion as to the number of species in the Vegetable Kingdom.

The Races of Man
(P. 4)

Manual of Zoology.
(P. 21-22)

The one case is sound
the other not.

Community of descent and its converse is the only bond imposed by nature at all corresponding with the arbitrary distinctions of the school. That it does in the main agree with these distinctions is the only possible justification of their existence. The only answer that can be given to the statement of Goethe that nature knows only individuals, and species exists only in school books: is, that at a certain point in the diversity of the individuals nature by means of Disinclination, or inability for sexual intercourse, or infertility, imposes an arbitrary distinction which corresponds fairly with the distinction imposed by the schoolmen.

Agassiz the only eminent

naturalist who insists upon the idea of likeness, and excludes that of fertility, is led into countless errors by the anomalous position.

Physical likeness may be affirmed to be as close with regard to the human race; as between the members of most distinct species which are lower in the animal scale. That the individual differences of man should bulk more largely in our minds than the individuality of the lower animals is natural. Man is the animal to the study of which we have devoted most attention; his peculiarities are better known to us than those of most animals.

It may be argued ^{in conversation of the} that many animals recognise individuals of the human race with great facility.

An Essay on Classification

notwithstanding all this however we must affirm the position that the individuality of the lower animals is quite as marked as in the case of man.

The power of the lower races in observing facts of this class, seems to transcend that of the civilised races; partly no doubt from the rudimentary state of numerical and classificatory science among them throwing them back upon individual differences.

The power of counting among the Lulus probably in no case extends beyond twenty - the number of digits - yet it is remarked among the Native Colonists that Lulu herdsmen will at once miss a single animal from a herd of many hundreds of cattle.

Henry Kingsley says that

The usual answer among the Australians who can speak English as to the number of a herd or company is "eighty-four" with an expletive. This he says is not from want of power to count as they miss a single individual from a large herd at once. It is well known that in Australian languages the numerals seldom amount to more than the number of digits.

Obviously enough nothing but what Combe or Bridges would have called Individuality or the power of individualising can account for this.

An old shepherd once remarked to the writer that when a boy he had charge of a small flock of sheep, of every one of which he knew the faces, and in many cases the individual characteristics.

It is well known that eastern

Hilliers and the Burtons.

30
shepherds know the individual members of their flocks. "And he calleth his own sheep by name" and they follow him. The wonderful power of the shepherd's dog in bringing together all the members of a flock is another instance of the faculty of individuality supplying the place of the science of numeration.

Whoever has read Mr. F. Buckland's "Essay on Rats" cannot fail to be struck by the fact that the author knows the individual faces and characteristics of his rodent favourites quite as familiarly as those of the members of his own family.

Rooks pair only once, during successive seasons the old partnership holds, yet we never hear of any mistakes among them; showing

The Erick Shepherd.

Has he any family?

?

1881

that they also must have a strongly marked individuality.

Such cases as these from among the lower animals go a long way towards proving that the individuality of the lower animals is quite as strong as amongst ourselves; and therefore if regarded from an equi-distant point of view; as touching familiarity of knowledge of the individual differences of the members; the intra-specific characteristics of the human race are quite as close as those of the lower animals. Surely the crows are not gifted with superior faculties of observation to the Lord of creation. If on the contrary their powers are less in this respect, then it would follow that their intraspecific differences ~~are~~ greater.

Great mistakes are made by men

of eminent scientific culture from the want of his faculty of isolation. "Put yourself in his place" is, as a scientific dogma, of quite as much importance as when dealing with the vagaries of human action.

Having shown that the lower animals possess a much stronger individuality than is commonly apprehended, our next task will be as a corollary to this, to show that the different-races of man are much more closely related than is generally considered. ——— that the varieties are so closely related as to fairly bear out the idea that they are all capable of being classified as one species.

The reasons that the individualities of the different-races are so much

dwell upon are various. The principal being that even scientists are not accustomed to observe man from the same point of isolation as they do the lower animals. Another noteworthy reason is that the first travellers and also many who from limited time and other causes have not had sufficient opportunities of observation have only noticed the superficial differences and lost sight of a wider general resemblance, as also of many points only to be caught by a skilled eye and a lengthened period of observation.

This is extremely obvious in the evidence as to physical relationships and differences. The ideas of the older authors, and more superficial observers, which are carefully fostered and reproduced by Professor Reckel

in a pictorial form in his new work has no corroboration in the testimony of Livingstone, Mungo Park, or James Bruce of Kinnaird.

One of the most striking and constant differences between the various races is in the colour of the skin. This was formerly supposed to be due to climatal differences, a view which had to be modified as it became evident that many dark races had lived for long periods of time in cold dry climates which were supposed to conduce most to bleaching of the skin. The causes of darkness of the skin in tropical climates are probably:—

- 1st—Want of proper aeration of the blood, the arterial and as a consequence the venous blood becoming

The Evolution of Man

Peschel. (The Races of Man)

darker and consequently more charged with pigmentary matter.

2nd. - Increased activity of the Biliary function acting in the same manner.

3rd. - A process of Natural Selection as it is well known that even in America where the negroes are not acclimatized, they and even the mulattoes enjoy an immunity from yellow fever.

4th. - It must be remembered that the heat of the sun constantly stimulating the connective tissue cells of the Intestines may rationally be considered as a most favourable condition. As Physiologists, we know that such a stimulus as heat dilates the pigment cells of the frog and such cells moving under the influence of stimuli must necessarily be

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The Races of Man

in a fitter state for taking up pigments than those not under excitation.

It is commonly taken for granted that the normal colour of the human race is black, primarily this may have been so: and reasoning from analogy upon Darwinian lines much can be said in favour of this hypothesis.

On the other hand it must not be forgotten that colour varies, and the children of the dark-skinned races are always lighter at birth, they are in point of fact when newly born very much like the children of Europeans. This fact taken together with the foregoing view as to the colouration of the skin makes it probable that the black skin of the negro is recent, and that in accordance with a certain well-known law the light colour of the children

All the authorities, Park, Livingstone,
Winwood Read and Knox, besides Rolfs
and others. The Races of Man.

is merely a race of the primitive type.
 "The colour of the skin passes through every gradation from ebony black as in the Gollofers to the light tint of the Mullah as in the Wakilema, and even Barth describes copper coloured negroes in Marghi."

"The only persistent character that can be adduced as common to all is the greater or less darkness of the skin. The colour is always browner than that of Southern Europe, there are negroes with ashy fair and with red hair."

Red hair occurs in all parts of the world except America, it has been observed among the Australians, the Finnish tribes, and the Berbers of North Africa. Some of the Berbers have light eyes and fair hair while even

I.C. - In the Negro

The Races of Man
(P. 463)

Herzen Von Afrika (Vol II)
Schweinfurt (P. 104)

Peschel quoting from Lauth
(p. 93)

Journal of the Anthropological of
Great Britain ~~(Vol I)~~ (Vol II).

ated by the observations of Dr. Cornie
Signor Gilbertus and Mr. Mosely.

The conclusive testimony borne
by these gentlemen renders it quite
unnecessary to say anything further
in controversion of Professor Haeckel's
inaccurate statement to the contrary.

Amongst the later Anthropologists
a certain school has given great prom-
inence to the different characteristics of
hair as a mark of race. No doubt can
be reasonably entertained that it is
one of the most important and per-
sistent marks of race. Like other
facts bearing upon the subject fuller
knowledge brings us to the conclusion
that it has been over-estimated, that
it is not so characteristic as was at first
supposed. The statement which seem-
ed to give most colour to the diverse

Journal of the Anthropological
Institute of Great Britain (Vol VI).
(P. 105. P. 216. P. 421)

Theory of human species was that advanced by Haeckel as to the unequal distribution of hair upon the scalp of the Papuan.

As usual the testimony of travellers who have not been in a hurry exposed this scientific man's nest. Had there been truth in the allegation as to the unequal distribution of hair upon the scalp of the Papuans a fact would have been made out which pointed to a most interesting variation suggestive of a class of differences which might have had some weight in support of the plural theory. As it is - the strongest point in the argument from the hair has broken down.

Regarding the distribution of hair on different parts of the

The Evolution of Man

body, it may be stated that the nations in this respect most favoured are the Indo-Europeans. Abnormalities have been found and individual exceptions but it is precisely the highest race that the world has seen, which most resembles the lower animals in this respect. - race which has been clothed for ages. We have seen many natives of Galien with a covering of hair upon the chest widely spread thick and grown one or two inches in length with which neither Negro nor Australian could hope to compete. In the case of one Scotchman there was a covering of hair over all parts of the body which laid close to the skin when bathing and cut off sharply round the ankles and wrists gave the ludicrous appearance of a tight-fitting black

swimming dress. In another case, that of a Highlander operated on for dislocation of the shoulder-joint by Dr. George Buchanan at the Western Infirmary Glasgow, Winter Session 1874-5; the chest was wholly covered by hair which in appearance called forcibly to mind Scott's description of the Red Mc Gregor. It may be remarked that in the cases observed the growth of the beard was in no instance excessive.

Don Rudesimo Salvado says he never met more than one native in Western Australia who was black. Their hair he found to be not woolly but smooth and often so fair that it would have been envied by a native of Northern Europe. He observed this fair or glossy hair also in a native of

Anthropological Journal (Vol II).

The eastern portion of the continent.
 "The Bishop's testimony is rendered stronger, I cannot but think, by the fact incidentally mentioned by him that he had constantly washed and combed the hair of the natives among his varied missionary labours."

In the face of such testimony as this it is evident that hair as a mark of race among the Australians at least is of no account.

Dr. W. G. Turner in his interesting paper on the Ethnology of the Moni, classes this peculiar race of New Guineans with the Malay rather than with the Papuans although the hair is of the Negro's character, and substantiates his position by a comparison of physical and mental charac-

His Thesis, and in the Anthropological
Journal.

40.
beristics with those of the Malay, clearly showing that hair as a mark of race in this case at least is erroneous and misleading.

Dr. S. Wilson says that the hair of a male Peruvian mummy was brown in colour and as fine in texture as the most delicate Anglo-Saxon hair.

In the female from the same tomb it was brown in colour, shorter, somewhat coarser, but fine when compared with that of the Northern Indians. In a bag upon the body of the woman were locks of human hair each secured by a string tied with a peculiar knot. All the hair is of a fine texture of various shades from fine light brown to black and to all appearances has undergone no change.

The Professor from this seeks to

Pre-Historic Man (Vol II)
(pp. 134-140)

41.
prove the existence of a different race from the present. Other observers however have found coarse hair differing in no degree from that of the present inhabitants. So that all he proves is that the hair in the American race was not uniformly coarse in ancient times. Indeed his admission of the coarseness of the hair of the woman and skilful evasion of the difficulty by comparing it not with the hair of the South, but of the North American, would seem to show that he is aware of the weakness of his case. As the preponderance of evidence is immensely in favour of the unity of the American race, this merely proves that there has been greater variation in the structure of the hair and other characteristics than was at first supposed.

The Aryan race which has been shown by German scientists to be a race of pure nearly unmixed blood which dwelt upon the slopes of the Caucasus within a circumscribed area holding little or no communication with its neighbours, and therefore but little exposed to the influences of crossing and the variations that spring therefrom, exhibits with regard to the characters of the hair a diversity which embraces every peculiarity found among the known races of mankind.

This statement may appear paradoxical but a careful consideration of the restrictions and disadvantages under which the hair labours in striving to assume its natural appearance and a close observation of its appearance and when left pretty much to its own devices will show that it is true.

The influence of civilisation everywhere is to subdue the wild, the natural and the luxuriant and replace it by the tame, the servicable, and the methodical. Appearances are reduced to a certain standard. Modern utility scorns variety without use. Compare the luxuriant elasticity of the classical languages with the close clipped immovable forms of the modern which the poets so declaim against; our trees are pruned, our very ideas are reduced to the same mathematic standard.

The same influences are at work upon our hair, it is cropped at stated intervals, carefully oiled, parted and trimmed in the same manner, and what may be called its natural disposition thwarted and nullified.

Is oiling the horse dangerous?
What of soap & water?

74.
Despite all this, however, any person naturally endowed with observant powers may see abundant instances of hair as curly as that of any negro, in people of pure blood - curls small and lying close upon the head.

Among people who from æsthetic considerations such as painters leave the hair pretty much to its own devices we often find it standing out from the head in a shaggy crown like that of the Australian.

While in the Street Arab, it often stands up from the head matted in to tufts as in the Papuan. Almost every person who has devoted any time to the subject, must have seen among the Dutch, Germans, and even amongst ourselves hair for straightness resembling that of the

North American Indian. The people with the longest hair are the North American Indians, Peschel mentions that upon the head of a crow-warrior as being seven feet in length. No doubt much of this is due to selection as it is considered a beauty, and much to training the hair into a long scalp-lock never washing it and stiffening it with unguents.

Lord Byron tells us that he has seen three women whose hair reached to the heel and was so abundant that it might have formed a natural clothing, two of these were English and one Oriental.

This may be fairly claimed as an analogy to the case of the crow-Indian in respect of abundance.

Foot-notes to Don Juan.

20.
In the light of such evidence, the case of hair as a mark of species may be said to have broken down.

In like manner the other physical characteristics supposed to be typical may be shown to be the results of the accidental surroundings of the peoples to whom they belong. As for example, the weak limbs and ill-developed calves affirmed (by Professor Haeckel) ^{belong to} the lower races, more particularly the negroes and Australians, may be shown to be met with only in certain circumscribed localities and to be due to an insufficiency of food. And when members of the same race were freed from such accidents the peculiarity was found to disappear.

The muscular and well-fed

Evolution of Man

Zulu of the race of the Bantu negro has been found to be a match in pedestrian powers to the best developed English soldier. Indeed the Zulus maintain the idea of their own superiority in muscular power. Buffon long ago affirmed that the Hottentots could outstrip even the lion in the chase.

Mr. Robert Christison of Central Queensland speaking of the natives says "many of the men are of good stature some perhaps six feet high with good muscular development even of the legs, but no fat." In the most recent accounts the Australians are uniformly spoken of as a well developed race.

Among the bare-footed children of Scotland the writer has observed quite as great a degree of prehens-

Nat. Hist

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(P. 147)

side power as has yet been authentically established in the case of any savage race.

Even among the negroes the Racial peculiarities of the ideal negro are to be found in no single tribe.

The jaws and lips of the Golothers are not prominent.

Many of the tribes on the Lualaba are of an almost European type. The Lulus are a race distinguished for their high foreheads and great muscular development.

According to Winwood Reade in some tribes the nose is pointed straight or hooked.

Rolls found among the negroes of the Fulbe whitish yellow colouring and European features

Mungo Park

Livingstone's last Journal.

Savage Africa
(P. 515)

While among eighteen skulls from Equatorial Africa - which has always been regarded as the home of Negroid characteristics no less than four were found to be Brachycephalic.

A careful examination of the different races reveals the fact, that a very few great groups comprise the bulk of the inhabitants of the Globe.

That the American Indian is a Mongolian race no reliable Anthropologist of the present day will deny; Humboldt, Moutz Wagner, James Dixon, Burton, Schudi, Reinhol, Tensel King and Saint Hilaire and a host of others have at more or less length called attention to the oblique eyes high cheek bones, and long straight hair as points of resemblance.

Reptiles Craniorum
(p. 216)

The Races of Man

Not only so but the route by which these people reached their home is clearly enough demarkated by a chain of Islands and shallows ^{and} that the severance of the continent of Asia and America have been of late date is shown by Behring Sea which is so extraordinarily shallow that whalers can lie at anchor in the middle of it. Another fact of importance is - that the coast of America is visible from some parts of Asia.

In this manner the racial characteristics correspond with the geographical and physical affinities of the regions and demonstrate in a remarkable degree the unity of the Mongolian and American races. An interesting point in substantiation of the subject

in hand is the fact, not previously touched upon in so far as we are aware; that the portrait vases of the ancient Peruvian and Mexican civilisations bear such a close resemblance to the sarcophagal sculptures of ancient Egypt - as almost to incline one to the belief that they belong to one race.

Any one making a careful study of the illustrations of the portrait-vases of Mexico and Peru in Dr. Wilson's work and of the figures given in Professor Owen's masterly monograph on the Ethnology of the Ancient Egyptians, must be struck with the similarity of the cast of features of their variety, their near-

Pre-Historic Man
(Fig 89-99) (P.P. 28-46)

Journal of the Anthropological
Society (Vol IV)
(P. 243)

ness to those of the Aryans in point of likeness and above all by the expression. A calm, majestic, magnanimous superiority is the predominant expression among these lords of the earth.

Peaceful, magnanimous, overlooking, superior, with none of the eager harassed anxious worn look which business imparts to the superior race of the present day, these ancient aristocrats of the human race present to our eyes an example of regal altitude of mind shining out in the countenance to which the present day can furnish no counterpart.

Wilson and Owen call attention the one to the majesty of facial expression of the ancient American civilised races; the other to that displayed by the great race which

The Ethnology of the Ancient-Egyptians
The Anthropological Journal (Vol. IV)

achieved so much of the most remarkable knowledge yet given to the world, in the bed of the Nile six thousand years ago.

An examination of the Egyptian chamber in the British Museum cannot but impress one with the belief that the oblique orbit which prevails in man, shows evidence of an older race of which the Mongolian has developed one set of characteristics - the negroes another; and the Aryans a third:

We do not say that from this great people these races sprang. But we do affirm that the ancient Egyptians are a link which binds together the three mightiest, most numerous, and most diverse, varieties of the human species.

The crisp hair, dark eyes,

84.
and somewhat full lips prevailing among them remind us of the negro, the oblique orbit and the brick-red colour remind us of the Mongolian. The colour is especially remarkable as being brought out in closest resemblance among the North American Indians although it prevails more or less throughout all the Mongolian races and is peculiar to them. While the greater variety of feature, the superiority of expression, the well developed body, and, in a certain superior set, the whole type of face embody a resemblance to the frank more vivid than to either of the others.

As a proof of the unity of the human race this evidence is of the utmost importance and in

See Plates against p. 228. Anthropological
Journal (Vol. ~~IV~~)

itself is almost-sufficient to justify us in claiming for the human race an origin from one common family.

One striking fact concerning the American race is very well brought out in Prof. Wilson's work. Among the set of figures above alluded to is one named by him as a Mexican Terra Cotta of the same period apparently, in which the features are of the most thoroughly Mongolian type, overthrowing it seems to us the learned Professor's theory of the Ancient American races not being Mongolians and pointing in the direction of such a connection as we have indicated.

The Semites from their physical characteristics may be considered as a link between the Egyptian and Mongolian stocks.

Fig. 89.

and pointing to a common point of divergence as above hinted at.

This is further borne out by the fact that those who have studied the Egyptian and Semitic languages, long ago conjectured that at a period beyond the present reach of research the Hamites and Semites developed their language in a common home at least as far as the roots of the Pronouns. The oblique orbit and hooked nose together with the head measurements and tendency to prognathism sufficiently connect them with the Mongolians, while the same characteristics together with the characters of the hair and the greater abundance of the beard are points in which they also resemble the Egyptians.

The Races of Man.

87.
That the Australian and Tasmanian are of the same race and that both belong to the Negrito stock is a hypothesis in support of which fresh facts are every day being adduced.

In the case of the hair the Tasmanian forms a connecting link between the Australian and the Papuan. In the Australian it forms a shaggy crown which is weaker than that upon the head of the Papuan. In the Tasmanians the hair is much stronger and in microscopic character has such a resemblance to that of the Papuan that Huxley classifies them as Negritos. In all three the hair on the body is plentiful, and the beards are abundant, a characteristic which distinguishes them from the Malay.

element. The Tasmanian and Australian skull belong to the high dolichocephals and agree in character with those of the other Negritos, thus the average index of breadth of the Australian is 71, height 73, as against breadth 74, height 74 of the Tasmanian. Compared to the Papuan Negrito with average of B. 77 H. 77, it appears that the Tasmanian alone in relative height and breadth could claim to be of Negrito origin.

The other undeniable Negritos, however, whose skulls have been measured show in their ratios a closer resemblance to the Australians, as, Solomon Islander B. 72 H. 76, New Caledonian B. 70, H. 79, New Hebridean B. 72 H. 77.

These ratios differing as they do

Thesaurus Craniorum
(P. 352-9)

from those of the Malays and Micronesians and agreeing only with the Negritos are at least presumptive evidence of the identity of race here insisted on.

In both these races the root of the nose is narrowed, and the alae expand giving a common resemblance to the Negrito nose. This feature is never hooked as in the Papuans, but the difference goes for nothing as it is not a universal feature of the Negritos. Even among the Papuans Signor. Albertis has not been able to recognise it as a racial characteristic although most others observe it as being at best common. Among the Nicobarens it is never found. The mouth is wide and unshapely a feature common to these and also to the

Travels in New Guinea - Anthropo-
logical Journal (Vol II)
(P. 214)

older peoples.

The teeth of these races are also identical and connect them with the Dravids and the older races of the earth, the third molar tooth has three roots. In both the crown of the first true molar is extremely large, "And the minor loss of size of M_3 as compared with M_2 and M_1 are characteristic."

The fact that the Tasmanian is a Negrito has not been gainsaid, and this newly demonstrated idea that the Australian is identical with him and of the same stock, does away with the vexed question as to how the Tasmanian reached his present (or late) location.

As an objection to this hypothesis it may be stated that the greater

Varieties of Man. Latham.

Anthropological Journal (Vol. IV). Owen

Owen's Odontography (P. 454) (Plates 118-119)

likeness of the Tasmanian to the Negro, must be accounted for. This may be easily done and indeed must strengthen the theory.

The races at a very early period, probably before the separation of the Australian continent from the land adjoining it must have spread over the continent and invaded its uttermost parts with the rapidity peculiar to savages. After becoming located the gradual rise of the ocean which has been so constantly going on in that part of the world disconnected Van Diemen's Land from Australia. As a consequence there being less territory and fewer individuals this circumscribed colony became as it were fossilised and thus the characteristics of the ancient

inhabitants of Australia were handed down to us.

That the Gate of Australia is the Torres Straits is easily shown - the Malays still visit Australia by this way and the Malay-Jepang fishers have left their impress upon the tribes in the Gobiung Peninsula. As the Papuans had possession of these seas before that time no doubt in the same manner they visited Cape York. It must be remembered that the elevation of the sea by only a few hundred feet would transform the vast continent into a cluster of numerous islands. This low altitude of a continent which has not been submerged since the Secondary and early Tertiary periods is a presumptive argument that the land must be gradually

Peschel (p. 324)

Peschel (p. 324).

sinking.

The breadth of Torres Straits is only 80 miles and there are chains of islands showing the presence of submerged mountain peaks.

The sea among these islands is nowhere more than ten fathoms deep, which subsidence considering that a vast continent nearly adjoining has sunk since the Tertiary Period to a great depth only the mountains remaining - may easily have taken place since the appearance of man.

A great and ancient people - The Dravids - have left little evidence of their physical characteristics but from the few stray facts that can be got together it can be inferred with tolerable certainty that they were allied to the Negritos, and that from

Anthropological Journal (Vol. VI)
The discussion following Dr. Comrie's
Article (p. 102). Taken from Lieut. Pusey.

There were developed the dominant race of the earth - The Indo-Europeans

The hard ribs of Central India which ⁱⁿ language belong to the Dravids may be fairly classed with the Negritos as to Cephalology (B. 43 & 44) and their other characteristics agree to a certain extent.

And as a general rule the low caste Hindoo may be said to approximate to that type B. 46. H. 74.

The Andamanese and the Semangs of the Malay Peninsula are nearly identical in physical characters with many of the wild tribes of Southern India who belong to the Dravids (the character of the hair is identical). It must be remembered that there is incontestable evidence that these ~~parts~~ were joined

Thesaurus Craniæ
(P. 352-9)

at a period not very remote, to India. The Andaman Islands having formed the delta of a large river falling into the Bay of Bengal.

Quatrefages remarks that the Minopie branchlet must have furnished a portion at least of the Dravidian peoples and that to judge from skulls some Pariahs were almost pure minopies.

All the races of ancient Europe resemble the Dravids in conformation of the skull and Dr. J. Young suggests that the Dravids were induced to return from the north and west by climatal change after the old type had improved, and in this manner India was supplied with its Aryan population.

It must be remembered

G. C. Dolson B.A.. M.B. Anthropological
Journal (Vol II)
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Revue d'Anthropologie. 1872.

Physical Geography

40.
that the progression of all living creature is from the general to the special. The Negro therefore is presumptively of more recent date than the Negroes and the latter in turn than the ancient David.

This would seem to be shadowed forth by the fact that the Negro characters, including colour are not so marked at birth as later on.

The presumption therefore is that the ancient David while approximating to the starting point of the Lebriche and the Ulobriche was not at all of a highly specialised type but combined to some extent the characteristics of these two primary races of which the Negro and the Aryan are the most highly specialised examples at the present time.

In closing this connection as to physical characters of the principal races a few words must be devoted to the Aryans.

Upon the physical differences of the Aryans, and at the same time their demonstrated unity of race by means of language, the whole question of the unity of race might safely be allowed to hang.

It is among the Indo-Europeans that one finds the greatest diversity of type. The large yellow-haired blue-eyed orthognathous German, the Celt small and dark, or of medium height with red hair and grey eyes - in both cases more prone to prognathism; the dark-haired almond-eyed Italian; the swart Brahmin, mesognathous in many

cases with ill-developed gastrocnemii and the bulk of the calf high up the leg; show a much greater difference from each other than exists between the highest of other races and those nearest them among the Indo-Europeans.

There are many individuals, and as pointed out before, even tribes among the negroes very much nearer to the Hindoo or even the Italian in point of physical characteristics; than the latter is to the purest type of the Saxon.

So great is this diversity that Prof. Huxley has found it necessary, to assign to them three groups, viz, the Melanchroi Lanthocroi and the Lantho-melanostype - leaving only two groups to include all the other peoples -

The Ubovichi, and the Melanor
among the Leovichi.

Notwithstanding this diversity it has now been satisfactorily established that the Aryans are of one race. We here take the opportunity of quoting the most magnificent piece of anthropologic work extant, the demonstration of the home of the ancient Aryans by Peschel:-

"When the ancient vocabulary of the primordial Aryan race has been restored by collecting the roots common to all the members we at the same time obtain an outline of the social condition of these nations in the most ancient period. We thus learn that they already tilled the ground, ploughed it with oxen,

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used carriages with wheels, kept cattle
 for the production of milk and ven-
 tured on a neighbouring sea but did
 not use sails. It is more than doubt-
 ful whether they smelted metals
 especially as the name for bellows
 is not derived from the Primordial
 place of abode. As they were not
 yet acquainted with the ass and
 the cat they had not yet inter-
 changed any of the treasures of
 civilisation with the Ancient
 Egyptians. The fact that they sub-
 sequently borrowed the name for
 camel from the Semitic languages
 is decisive against Bactria.
 As they had the same terms for
 snow and winter and the other
 seasons afterwards received dif-
 ferent names, we may be certain

in ancient Arya there was an alternation of hot and cold months. In these primitive abodes dwelt bears, wolves and others, but there were neither lions nor tigers. By these indications we can accurately define the home of the Indo-Europeans. It lay eastward of Nestus now Karam in Macedonia which in the time of Heracles was the limit of the range of the European lion. It was also further north than Chuzistan, Irak-Arak and even than Assyria where lions were still to be met with. "It cannot have included the Highlands of West Iran and the southern shores of the Caspian Sea, for tigers still wander in search of prey as far as those districts."

"Hence from all the facts here cited

every geographer will probably agree that the Indo-Europeans occupied both slopes of the Caucasus as well as the remarkable gorge of Darial and were in the habit of visiting either the Caspian or the Caspian Sea or perhaps both.

It has thus been shown that this race ^{has} no connexion with either the Egyptian or Semitic races. The only other race with which it can be connected geographically is the ~~Dravids~~ Dravids.

This is quite what would be expected. A race so highly differentiated in characteristics both mental and physical could only have sprung from virgin material, everything seems clear. A branch of the Dravids nearly or perhaps spread to the north-west and peopled the slopes of the Caucasus

and these developed the peculiar love of country which distinguishes all mountainous peoples from the inhabitants of the plains. The inaccessibility of their location also helped to fix them. The races of the plains were swept away by the mysterious current of westward migration, giving place to others, and the isolation was completed.

The difficulty of existence conduced to their education. The forces of nature almost gathered to a focus had to be contended with a peculiarly favoured race had by chance come upon a peculiarly favourable spot for development and the human mind rose to the struggle, grappled with the exigences of the situation and

overcame. How many races tried the situation before and were unequal to it we know not, but at last a superior family came and the fittest survived.

The situation was favourable - central, right in the way of the tide of emigration, not far from the starting point - where it could catch the stream. The climate was favourable - temperate, not sultry and enervating like the surrounding plains - a climate in which man could work and, with variations, to provide against which rendered work imperative.

In mountainous districts a larger variety of plants are always found in a smaller area than in the plains. Hence probably some of the

cereals came early under notice. The fauna again in the mountainous districts is more varied, survives and endures longer the presence of man, and is more closely set.

More ingenuity would have to be exercised in the manner of hunting, and arduous exertion would to a great measure account for the well-known energy characteristic of the race.

How long these old Aryans incubated in their mountain home we know not, one thing is certain, it could have been no short period of probation which imparted to them a restlessness, a fertility of resource, an aptitude for colonising, and a power of overcoming difficulties, which have never been surpassed.

In no other race which ever existed has such an amount of refinement co-existed with so much savage energy and robust vitality. As the whole is the sum of all its parts - so in racial characteristics, mixed breeding seems longest to keep up, and in some cases even procure, a reversion to the more ancient type.

It is a very singular but undoubted fact that the British are the most noted among the Indo-Europeans for those very characteristics which distinguish the Aryan from all other races.

They are the only successful colonisers of modern times, a fact clearly attributable to their mixed origin. His rude vigour and half-savage harshness and vitality -
mixed with an

adaptability to circumstances, and an impatience of hammel, as compared with continental nations, induce foreigners to regard the Briton as an unknown quantity a sort of half-savage, good-humoured overgrown boy. Probably also the predominance of the religious and moral feeling over every other, which excites the remark of such scholarly philosophers as Taine is in great measure due to the mountain peaks and giant forces of the Caucasus. It is the conjunction of these qualities with an undoubted preeminence in letters as in civilisation which awakens in the minds of such men as Taine, Peschell and Haeckel the conviction that the English are the dominant race.

History of English Literature (Vol II).

There are many ancient races including the remarkable Furfooz with the largest orbit of any yet discovered. But the knowledge of these is still incomplete and little can be adduced as yet upon which to speak authoritatively. In so far however as can be made out the diversity and intercommunity of type observable in modern races held the same ratios in the ancient.

Within a period of little more than two centuries a new race has arisen, the Buramerican, lean, meagre approximating to the Indian in point of conformation of figure and length of leg with a high prominent forehead and a square jaw, the influence of change of situation has been such that this important variety already differs more from

D-4 Wilson. (Pre-Historic Man. Vol II)

But it sets in the
a single generation

his immediate progenitor than the English do from their continental neighbours.

In view of such a change of type as this portrays, having occurred within a short period the idea of the plural theory of origin being a necessity is there nonsense.

The question resolves itself into a simple ratio - If the Euroamerican differs so much from his immediate progenitor in a period of 250 years how much could be accomplished by the same natural forces at work during the ages in which the differentiation of mankind has been accomplished.

Upon the question of man's unity of origin the only evidence that can be obtained as to community of descent, namely, the fertility of the different races with each other

would settle the question in the affirmative

If the bound of species arbitrarily fixed by nature is to be accepted then the principal races of mankind can only be regarded as varieties. The most opposite races breed freely and the hybrid progeny in their turn are capable of producing offspring, a more severe test than that could not be conceived of.

Not only has the mere question of fertility been answered affirmatively but in several instances the hybrid race in point of vitality and qualities which contribute to make successful the struggle for existence has surpassed at least one of the pure races from which it origin-

ared.

The Canadian half-breed has held his own successfully while the North American is fast-disappearing. Tall strong, with a large bony loosely jointed frame; he unites much of the piercing intellect and restless ambition of the white, with the stoically patient endurance of his dusky relative. The wellknown attempt at independence which was only crushed by the prompt and vigorous action of England's best soldier speaks volumes for the vitality of the half-breed settlements upon the Red river.

If any races are entitled to be considered specifically distinct from each other, the foremost branch

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of the Caucasians, and the Negro race, by disparity of likeness are so, yet between these two a vigorous and fertile hybrid exists.

The Mulatto is also admitted on all hands to be the superior of the Negro. The objection has been brought forward that the Mulatto women are frequently sterile and that if the variety was not strengthened by continuous connection of the two races it would soon die out. It has been found however that the Mulatto women are notoriously unchaste and that where this restriction is removed the variety does not differ in point of fertility from either of its originators.

The Lamlas again seem to unite the persistence of the Negro with the higher qualities of the descendants

Dr. Knorr.

1890

of the ancient American civilisations.

The Pitcairn Islanders are a race very much superior to the Micronesians in point of vitality and intelligence and from a few individuals a race is being formed which seems to bid fair to become constant.

Our account would lack completeness did we not glance in passing at some striking facts all more or less connected with man's mental characteristics which bear strongly upon the question in favour of the theory of unity.

With regard to facts of this class the dilemma is employed by Peschel against the Plural Theorists with quaint and vigorous effect.

A Visit to the Pitcairn Islanders.
in Good Words.

Letter to the Daily News. June 10th 1880.

"Either these errors originated when all the varieties of our race dwelt together in one narrow home or they have been developed independently after dispersion over the whole Globe. If the latter be probable then the mental faculties of all the families of mankind are alike even in their strangest whims and aberrations."

The Totemism a case in point.—Totemism exists among the Assinines of New Guinea; in Africa, among the Hottentots and the Bechuanas, in Australia it is to be found almost at the very moment of deification as the Kobong; among the North American Indians it exists in its highest state of perfection. It is also to be found among the Kols of Nagpore ^{and} the Braons and Yakus of Northern Asia.

The Races of Man
(P.25)

Origin of Civilisation: J. Lubbock
(P.254)

Indian Tribes (Vol. II) Schoolcraft.
(P.49)

The Totem it may be argued is founded upon a need in man's higher nature, a sort of comparative idealism blended with a dim religious feeling.

But even were we disposed to grant this (which we are not), upon the lines of Peschel it must be apparent to every one that every fact which goes to establish man's psychological identity is a fact in favour of man's 'Unity of Origin'. The progress of civilisation from the general to the special is well illustrated by the fate of the Totem; it has diverged in two lines one through the Totem of the Australian, Fetish of the Negro, and household gods of the Ancient Chaldee into the expression of an abstract moral religion; another has become fossilised in the

possession of heraldic designs.

The wide spread prevalence of such an adventitious custom as serpent worship on the other hand would seem to point to a common mythology at a time when mankind must have dwelt together.

In ancient times the serpent was worshipped in Egypt, India, Phoenicia, Babylonia, Greece and Italy.

It is still, or was lately, an object held in profound religious regard in Persia, Cashmere, Cambodia, Tibet, India, China, Ceylon and among the Kalmucks. In Africa a snake is the favourite Fetish.

From Liberia to Venezuela the serpent was the principal deity. The fetish of Whydah is a beautiful serpent. Snakes are the only creatures

Fergusson.

Origin of Civilisation
(P. 254 et seq)

to which the Dinks and Shillooks of the Upper Nile region pay any sort of reverence. The Kaffirs have a general belief that the spirits of their ancestors appear to them in the form of serpents. In Madagascar the natives regard serpents with a sort of superstition.

In Fiji Ndencii the god of the abstract idea of eternal existence has the serpent as his symbol.

In the Friendly Islands and among the Tongans the water-snake is held in reverence.

In America the serpent is worshipped by the Aztecs, Peruvians, Natchez, Montanis, Mandans and also the Pueblo Indians. It was an object of worship among the ancient civilisations of Mexico and Peru. Last and most important of all

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The serpent plays a conspicuous part in the remarkable religious polity of the Hebrews.

Sir J. Lubbock is of opinion that the worship of the serpent has sprung up in many different places and at many different times. His argument that the serpent is a whole order while the other animals worshipped are only species, is in our opinion frivolous.

The serpents are so much alike that in so far as adaptation to the purpose of worship is concerned they are virtually a species, this is shown by the fact that as a rule, no individual form is taken, only one which happens to be handy; there is no searching after special forms, it is the general idea. Upon consider

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(P. 254 et seq.)

ation it will be found also that most of the arguments in favour of the theory mentioned can be confuted by a comparison of the Iphidia with any large and important order such as the Carnivora. In the instance mentioned it will be found that the Carnivora are a larger order more fearful by reason of their nocturnal habits, more inimical to life, extending in some form over quite as large an area.

The Lion with its fearful roar, the Tiger in the darkness prowling, have to give place in point of priority of veneration to some comparatively puny snake. The Carnivora also have the advantage in point of variation giving choice of many forms for which individual preference might be made.

fested. And yet the prevalence of wor-
 ship of the Carnivora is when com-
 pared with that of the Ophidia a
 mere drop in the bucket. Nay more,
 the worship of the serpent is of wider
 and more frequent prevalence than
 that of every other animal form
 taken together, and for no sufficient
 reason. Other animals are larger
 others more mysterious, others more
 beautiful, many more easily
 tamed, many uniting in them-
 selves more of all these qualities.
 And yet the fact remains.

We maintain therefore that
 serpent-worship is adventitious, that no
 valid reasons can be given why it
 should be worshipped more than other
 animals, in other words that it does
 not appeal to man's psychical

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characteristics more than many animals as widely distributed

Therefore, no other explanation is open than that at some time long past mankind dwelt in a common home and formed a habit which has been retained with the persistence that savages display in religious customs. No doubt the facts cited by the plural theorists have had much to do with facilitating the retainment of the habit, but cannot be held sufficient to have originated it.

The importance of the different legends of the deluge cannot be overestimated as a proof of man's common origin.

The Indians of the Orinoko preserve traditions of it. The Book of Job has a story in regard to it in which

These data are from an old essay
on the same subject by the author,
and some of the authorities are lost.

a raven figures, which led the survivors into their new country.

The Knutenause have a legend of it. Kuaplahu a virgin caught hold of the foot of a very large bird and escaped. The Greenlanders also had it prior to the advent of the first missionaries among them - all men perishing but one who smote upon the earth with his stick and there came out a woman, the earth being subsequently repopled by this pair.

In the Society Islands there is one. A fisherman caught his hook in the hair of the Sea God Ruahakui awakening him; the consequence was a flood in which all the inhabitants of the island perished except the fisherman, his wife and

Prehistoric Man (Vol. 1).

(P. 989)

child who were saved on a coral island close to Raihata they repopled the earth. The Tasmanians too have a story of the Deluge.

Among the ancient Greeks also, and other classic nations, legends of the Deluge are to be met with.

We are indebted to the labours of the late Mr George Smith for the unearthing of another from Nineveh which follows the general outline of the Jewish account having a ship in which he survivors were ^{preserved} and a raven.

The points in which these legends agree are that in several there is a raven a circumstance which cannot be explained upon any hypothesis of similarity of mind among the peoples who invented

Rained

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these legends independently.

In most of them there are also the following points of resemblance:—An offending of the gods, the consequent deluge, destroying all but a very few persons and the subsequent-repeopling of the earth by the survivors. These similarities cannot be explained upon any other hypothesis than that they originated in a common stock.

Arguments as to Psychological similarity which bear a show of reason upon the Totem, and in decreasing ratio, upon serpent worship, degenerate here into sheer absurdity. It must be borne in mind that they are from races which cannot have been in contact for ages, and they were in existence before communication was had with the peoples who profess

Christianity.

Coming to evidence gathered from many weapons General Lane Fox who has been investigating for many years has got together a mass of information on the subject.

In Africa corrugated iron blades are found with a hoist on them which would give them a rotatory movement. It is now a certainty that this peculiarity has been derived from older forms in stone which were followed for the same purpose.

These blades are found in Africa wherever iron is worked and among tribes which have no knowledge of each others existence.

Anthropological Journal (Vol. I) Appendix
(pp. 92-100)

From General Fox's later investigations
upon the subject. See Anthropological
Journal. Vols. II, VI & VII.

The method of working iron at the present day is the same among the Africans the Dravids, the Konds of Central India and among the Malays even to Madagascar.

The General traced his form of blade among all these peoples. He says a nearly similar form was found among the daggers of the Circassians and was common among the Franks and Anglo-Saxons of early Europe. Thus we have a form derived from the early stone weapons of Africa coming through their earliest iron weapons and retained with the persistence of savages up to the present time. A form which was common over a large area in ancient times and bespeaks an origin at a time more ancient still when the various races of

mankind were more closely associated

In conclusion it may be affirmed that the difference of intellectual force between the so-called savage races and civilised man is greatly overrated.

"Other men laboured and we have entered into their labours." What is absolutely true of the development of man's idea of God is also true in great measure of the sum of all his knowledge. Prophets and kings longed for the divine advent, Herbert Glamorgan longed for the day of James Watt and the Stevensons.

Civilised knowledge includes all the knowledge that has been handed down to us, and all that has been built upon that know-

ledge as well as that which may be said to be of purely modern projection. When examined in this light the strides which modern intellect has made shrink into comparative insignificance.

Taking into consideration the knowledge we have had to build upon and its gradual development, the electric telegraph must shrink into utter insignificance before the invention of the locomotive.

The origin of such a simple contrivance as the Woomera among the despised Australians involved a far greater effort of intelligence than the gradual projection of the steam engine.

The modern inventions cited were

Prehistoric Times. Lubbock
(P. 351-2)

The result of gradual development.
 The savage in so far as can be determined must have been the result of one intellectual effort.

The Ancient Britons were the first to apply a mineral manure (Marl) to agricultural purposes.

And according to a somewhat obscure account by Pliny they already cut their corn by machinery, and horse power. The Romans obtained soap from the Belts of Gaul and from them learnt to tin-plate metal vessels. Hunting they acquired from the Celtic nobles, and Falconry from the Germans.

The hammock is an invention purely of the New World the word is from the language of San Domingo. The use of arti-

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(P.P. 511-13)

Hist. Nat. lib. XVII

ficial flies for angling and the selection of the particular kind according to the species of fish, the season, and the weather, was first acquired by the English from the Indians on the rivers of Guayana. The Portuguese were first taught to manufacture tapioca by the natives of Brazil. It appears probable that knives and forks were in use by the Papuans of Fiji before they had penetrated to western Europe. While little more than a thousand years ago the Arabs brought to us from India an invention only surpassed in ingenuity by that of Phonetic Writing, namely our numerical figures and the art of determining their rank in the decimal arrange

ment by their positional value.

The first metrical weight was determined by the Cypriates: The Babylonian talent corresponded exactly with a Babylonian Cubic Foot of water at the mean temperature of the country.

Instances might be multiplied. The beautiful legends of the Maori, the complicated highly differentiated grammar of the miserable tribes of King George Sound: the undoubted intellectual vigour and capacity to learn of the Tasmanians as demonstrated by Mr George Robinson might be cited. The invention of the Sun-Dial by the Dolichocephalic Semites; and the wonderful time measurements and Geodesy of the Egyptians might be called upon

J. Brandis quoted by Peschel

Is one of the first four ^{Vols.} journals of
the Anthropological Society.
[P. 4-28.]

as evidence, but enough has been
done for our present purpose. We
hold that ~~man's~~ man's psychological identity
as well as his physical identity and
'Unity of Origin' has been established

Part 3.

Man's Place of Origin

On this the last and most interesting question in Anthropology connected with the present article it may greatly facilitate the inquiry if we first predicate a few things as to what must have been the nature of the place where man originated and ~~in which~~ he carried on the successful struggle for existence in his primitive state.

As was emphatically stated in the first part of this work it

seems to be a Zoological Canon that all great and highly specialised animals have required large space for their development.

The animals of South America are less in size than those of the same class, or which fill the same place in nature, in the Old World. The Puma and the jaguar are insignificant when compared with the lion and tiger. While the latter by the side of the elephant to use an Americanism may be said to be, of no account.

In ancient times when the section of land above water was larger and more compact the general fauna was of a much larger type than that in existence at the present day.

It is most unlikely then that the most highly specialised animal which the world has at any time been possessed of could have originated on any but the most extensive land tract which has at any time been above water.

The Old World as it exists at present might have given birth to the lion and tiger, it could never have originated man and the Anthropoid Apes.

Australia, South America and all the Islands must be left out of count - because and otherwise -

As the fauna they have been able to produce is of a backward character and not at all of that type which would be expected to co-exist with, or culminate in the fore-

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most of all animals.

In point of fact it can be proved that with the exception of the Canary Islands which were peopled by a now extinct branch of the Berbers all the Oceanic Islands at a distance from land were uninhabited when first visited by modern explorers.

In like manner the islands of Micronesia partly by philological evidence, and partly from tradition and evidence of dispersion of type, have been proved only to have been peopled recently.

In Australia. Man and the Dingo when compared with the rest of the fauna are only of yesterday. North America had the advantage over South America

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(P. 344)

or having formerly been connected with the Old World by means of Atlanta. This while it has provided it with a fauna superior in most respects to that of the South, was long before the appearance of man.

The men of the New World are all of the same race and are merely the farthest ramification of the Mongolian Stock - of ancient remains proving a Tertiary or Pleistocene race of men there is no evidence.

In Europe four great races of Post-Tertiary men have been discovered but these have given way to each other chronologically in a manner which gives indication that the stream of emigration was in the same direction as it has

Broca's Address.

been within the historic period—towards the setting sun. Thus the remains of the ~~Canstad~~ race are to be found at times in the same Barrows with those of the Cromagnon which superseded them a race which subsequently overspread all Europe and subsisted in great part upon the flesh of the horse, and reindeer, disappearing with them. Being in their turn replaced by a little Brachycephalic race of whom a remnant the Basques remain to this day. These great streams which overspread Europe could not have come from anywhere but the east. In accordance with the law above promulgated it is utterly unlikely that a place of small area such as Europe; was more than a factor

- if indeed it was a factor, in the production of Man. Moreover had Europe been the place of origin we should expect by this time that some evidence confirmatory of the fact would have been forthcoming in evidence of an older tertiary homogeneous race as two highly organised tertiary apes have been discovered one in Italy the other in Greece. Though the first races of which we have any knowledge the four great quaternary races of ancient Europe subsisted almost entirely upon flesh a careful consideration of the human alimentary tract and masticatory organs leaves no manner of doubt that man in his earliest and most primitive state must have been almost entirely granivorous.

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(P. 31)

The higher catarrhine apes which resemble man most closely in dentition and also in the anatomy of the alimentary canal are strictly fruit eaters.

Any deviation of man toward the carnivorous type, is among the higher races; the crowns of the molar teeth of the lower races are very broad.

Man's early home therefore must have been a place where food of a kind such as his congeners the anthropoid apes subsist upon was very plentiful. The supply of fruit was abundant and must have been perennial. This points to the fact that the climate was warm and equable. In such a locality as this no evil result would follow the want

of clothing or a sheltered habitation. Without such favourable circumstances one cannot conceive of such a puny creature struggling for existence among large and formidable neighbours with such signal success. In a word the climate must have been tropical. These remarks would apply to him alike in his early primitive differentiated state or in his evolution from lower forms.

When the various breads of the last part are gathered up it will be seen that the various races of man have come from land somewhere surrounding the basin of the Indian Ocean.

The central point of the Mongolian race is on the south coast of Asia probably somewhere in the

vicinity of the Malay Peninsula and slightly to the west. One branch peopled the South Seas spreading by way of the Maldive and Laccadive groups as far as Madagascar. A more ancient variety of the same stock still holds Tibet, China and Japan while the nomads of Northern Asia and the Americans, it has been shown are only the ramifications to the East.

The Mediterranean races of Blumenbach have also come from the east. The Aryans have been shown to be a branch of the Dravids a remnant of which stock is still found in the Deccan and in the southern parts of India including Ceylon in a fossilized condition. While the Egyptians and Semites

who developed their language in a common home as far as the roots of the Pronouns, are situated almost in the same vicinity, as it were, on the margin of the land.

The Negroes are significantly arranged over a number of Islands by New Caledonia, Papua the Andaman and Solomon groups to Australia and Tasmania.

On the west the African nations shut off from the other peoples of the same race by the desert formerly the Sea of Sahara reach to the shore of the Indian Ocean.

Thus there is a large arc of a circle in the centre of which lies the Indian Ocean round which the races are arranged. The Arizan to the west, the Mediterranean races

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north and west, Dravids and Mongolians north and north-east and Negritos north and east. But it has been established that mankind must have had a common home and there is no other point where all the races are in juxtaposition. Therefore we hold it proved that man must have originated on a continent in the South Indian Ocean.

Lemma.

The idea that there existed in ancient times a continent in the South Indian Ocean is not by any means a new one.

The site of a great and most easily demonstrable portion of this land would correspond with the Indian Ethiopia of Claudius Ptolemaeus.

It is in the neighbourhood of the four great ~~great~~ rivers of the scriptural Eden. While the expulsion from Paradise would have been inevitably accomplished by such a phenomenon. The various stories of the Deluge occurring as they do among nations belonging to all the principal races can only be explained upon the hypothesis that the common family at a remote period in its history had been forcibly deprived of its home in the manner indicated.

Added to this it may be remarked that the ecclesiastical writers of the earlier and middle ages including Lactantius, the venerable Bede, Hrabanus, Maurus, Kosmos Indecopleustes and also the anonymous geographer of Ravenna placed the scriptural

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Paradise in South-Eastern Asia,
 and some explicitly on a detached con-
 tinent. And the ingenious maps of
 the middle ages exhibit the first
 parental pair on a land sur-
 rounded by the sea lying beyond In-
 dia. This explains how Columbus after
 the discovery of South America
 taking it for an insular continent
 lying South-east of the mouth of the
 Ganges wrote home to Spain "There are
 here great indications suggesting the
 proximity of the earthly paradise
 for not only does it correspond in
 mathematical position with the
 opinions of the holy and learned
 theologians but all other signs
 concur to make it probable".
 This continent which is in the zone
 of the Anthropoid Apes has been

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named Lemuria by Dr. Schaller because it was supposed it would include the entire range of the Lemurs.

It is our purpose to give a short and accurate outline of the evidence by which it can be demonstrated that such an extensive land-tract did exist in ancient times offering in conclusion a few general remarks upon the significance of the data. The plant series may be dismissed in a very few words.

Dr. Stolczyka and Mr. Griesbach have shown that of the Cretaceous fossils of the Umtafuni River in Natal, 22 out of the 35 described forms are identical with species from Southern India. The plant-bearing series of the ^{Indian} Karoo and part of the Ulenhage formation of Africa are in all probability of fresh water

Quarterly Journal of the Geological
Society of London (Vol. 31). Henry Blandford
(P. 519.)

origin indicating the existence of a large land area from which these deposits are derived.

The Indian Jurassic fossils show affinities with the Guleh forms of Africa. Thus the plant beds of the Ulenhage group have furnished 11 forms of plants 2 of which Mr. Tate has identified with Indian Ragnmahal plants.

While Dr. Hooker and Thomson notice the presence in India of a Tropical - African type of vegetation and they observe a curious affinity may be traced of Western Tropical Africa and the Peninsular chain giving at the same time cases of specific identity.

The most exact and copious knowledge of which we are possessed as to the extent, early attachments and

physical features of this ancient continent is undoubtedly derived from the Zoological form.

The Fauna of Asia and North and in some cases South Africa are in many instances identical.

The Lion, the Hyena, Jackal, Leopard, True Antelopes, Gazelles, Common Sand Grouse (*Perocarpus* brushii) and Indian Bustard belong to this category.

Of the Lemurs there is one genus (*Loris*) in South India and Ceylon two in the Malay Peninsula all the other members of the family with the exception of one jawless form being indigenous to Madagascar and Africa.

The Scaly Anteaters which with the African form *Oryzomys* are the only representatives of the Edentata in the Old World occur

in New Guinea Mozambique, Sen
nagar and India: whence the genus
extends to China in one direction,
Java and Borneo in the other, while
the Asiatic and East African forms
are ~~more~~ nearly related to each other
than to the forms of Western Africa.
The Indian Badger *Mellivora* is
nearly identical with the Cape Badger.
The Indian *Flouken* (*Syrrhaptes* Lisson)
is congeneric with the Tropical African
form referred to the genus *Lisson*. The
males varying in common the charac-
ter of assuming a black plumage
during the breeding season. The genus
Hypsipetes restricted to India and the
Malayan region in Asia, occurs
also in Madagascar Mauritius
Bourbon and the Seychelles.

"Among the land-Mollusca are
some remarkable cases of identical

and allied species. One of the most striking is *Cycloopsis* (one of the two *Cyclostomoid* genera of India). The Indian form ranges across the peninsular from Bombay to Orissa (*G. subdiscoides* vel *Pfr. Sow.*). The only other known species (*G. Conoides* *Pfr.*) is from the Seychelles and the Mauritius. No species of the genus has yet been described from any other part of the world. The genus *Onphalotropis* centres in the Mauritius, but ranges to Ascension on the west and to the Sandwich Islands on the east, while on the north it occurs in the Andaman Islands. *Bulinus Punctatus*, Linn, is a common shell in Southern India and Ceylon and occurs also in Zanzibar and the Mauritius. The Seychelles *Streptaxis* is closely allied to species

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common in Southern India, Burmah and the Andamans. *Paludomus Ajakensis*, Mor. from the Seychelles, is an outlying representative of a genus which centres in Ceylon, but has representatives in India and the Malay Peninsula. One form also is said to occur in the Nile. A Seychelles *Helicina* (*H. Theobaldiana*, Rev.) is almost indistinguishable from one that occurs in the Nicobars; but this genus is not represented in India, though several forms are common in Malaya. And *Helix similis*, Fer., occurs in the Mauritius, Seychelles, and Bourbon, also in Arakan and Burmah, in China, Java and Brazil. Lastly *Planorbis* which is characteristically an Indian, Malayan and Chinese genus is represented in the Maurit-

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us and neighbouring islands by several forms allied to those of India."

All over this vast continent there existed an Ave fauna of Apterous birds the most characteristic specimens of which have but recently become extinct. The Dodo of the Mauritius was found there by the Dutch. In New Zealand the Dinornis Giganteus and Dinornis Elephantopus appear from the traditions of the Maori to have been living at no very remote period. The bones and eggs of another (Dinornis Maximus) have been found ^{in Madagascar} although it has now no wingless birds; and Rodrigo has lost another - The Solitaire (Pezophaps) but recently. The distribution of these and the wingless birds generally leaves us no room to doubt that there

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existed in comparatively recent times a continent in the Indian Ocean of the fauna of which these are the last characteristic remains.

The geological and geographical evidence is based upon the fact that there is abundant evidence of elevations and depressions in the Indian Ocean which bespeak the presence of land there at a time geologically recent.

A line of atolls, banks and reefs including Adas Bank the Laccadives and Maldives and the Chagos Group extends from the coast of India to the centre of the Indian Ocean, southward.

From this point as a centre three lines may be said to radiate; in one direction by Suez de Mulha the

Physical Geography. S. John Young

Seychelles, which rise according to Darwin from an extensive and tolerably level bank having a depth of 20 to 40 fathoms, by the Comorro and Cosmoledo Islands to Madagascar and the African coast. Another by Gargados Garajos, Rodrigo, Mauritius, and Bourbon, extends further to the south. And a third by Apaluria, the Keelings and Christmas Island conducts us by way of Java and Celebes to the coast of New Guinea and Australia.

Thus the whole basin of the Indian Ocean shows evidence of mountain chains traversing it in every direction and connecting it with the continents investing it on three of its four sides.

In accordance with what is now understood of Geology and Physical Geography these mountain ranges

Coral Reefs. Appendix.

(P. 185.)

must have formed the skeleton of a large continent existing here in ancient times.

"We are now in a position to go a step further and prove that this land existed down to and during the Miocene Epoch of the Tertiary Period; and to give evidence of its depression.

A careful study of the geology of Mauritius and the neighbouring islands by Mr George Clark reveals to us the fact that on Gabriel, Pass, Takou, and Booby, islands all of which are small islets outside the barrier reefs of Mauritius, there exist the fossil remains of a forest.

The smaller specimens are of Eudogens belonging to the palm like the larger Eudogens in some cases of the

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Fig family.

The stumps are generally three feet in height and in all cases the ligneous substance is replaced by Carbonate of Lime.

In many instances the trees have been surrounded by a stratum of Carbonate of Lime which extends over these islands in many places, and upon the coast where the waves have washed away the underlying strata this ledge is overhanging the water and the stumps may be seen projecting from its upper and under surfaces while in other cases they have dropped out and been washed away leaving only the holes as evidence of their existence.

There are great masses of coral on the shores of Grand Port in the

Mauritius not now found in a living state. And near Chamarel Falls at Black River ^{400 feet above the sea} there is a large quantity of old coral of a kind still existing in the neighbourhood.

In this locality also there is a mountain of soft aluminous stone of a grey colour having a number of concentric rings one to twenty feet in diameter coloured with peroxide of iron.

The most important feature in the geology of Mauritius is a double headed mountain 1000 feet high; the heads are rounded in a remarkable manner. The mountain consists entirely of hexagonal prisms one to five feet in diameter, of aluminous rock, light greenish grey, with black spots, so soft that it

may be easily cut with a saw or a chisel; and crumbles away rapidly under the action of the atmosphere. Mauritius is well-known to be of volcanic origin as is also the neighbouring island of Reunion where there exists a volcano in constant activity.

On various parts of the coast of Grand Port there are masses of columnar basalt in prisms varying from six to fifteen inches in diameter evidently detached from the Lion mountain. One such mass seventy or eighty tons weight is to be seen on the side of a mountain at least two miles from any similar formation.

In many places a layer of molten stone has been poured on a bed of

clay itself overlying a stratum of stone. In the north-east of the island there is "La plaine des Roches" - ten or twelve square miles covered by a band of rock almost entirely - becoming thinner near the sea where it is six to ten inches in thickness. This stratum lies on a bed of loam of equal thickness its surface bears the appearance of water rippled by the wind. In many places it forms 'paves' hundreds of feet square without fissure, in others there are conical mounds with radiate cracks from centre to circumference evidently caused by some upheaving force; these are also seen all over the country. The soil beneath is fertile, and in many places holes have been broken

and canes planted which thrive well during the wet season.

There are numerous other proofs of disturbance of the upper strata in this part of the country by subterranean forces.

Oxide of Iron in pisiform nodules is found in many spots, there are so numerous that Governor Labourdonais established foundries which supplied him with Iron which he used in ship-building: these were subsequently abandoned from the immense quantity of wood required as fuel. Thin veins of Iron ore occur in many places scattered on the under surface and containing more than seventy per cent of pure metal; in the northern part of the island a soft white earth

locally termed boue-blanche supplies the cottars with both plaster and whitewash it appears to be formed of decomposed madrepores but possesses more consistence than would be expected from such a material.

As fossilisation cannot take place in the air there must have been a subsidence of the land bearing forests to the extent at least of the height of the stumps and the fact that they pierce a rather old stratum of Carbonate of Lime vouches for a considerable antiquity. From the existence of the coral at Black River nine hundred feet above the sea-level it is evident that the entire land in the vicinity must have been under water at a date subsequent to the time

of the hills.

The geological evidence we have embodied proves beyond a doubt that Mauritius and the adjacent islands are a recent upheaval. The rocks are recent and as yet but in the plastic state. There is evidence that the subsidence of the northern extremity of Peninsular India took place subsequent to the Great Trap Flows of the Deccan.

These enormous sheets of volcanic rock are remarkably horizontal to the east of the Ghats or the Sahyadri range, but to the west of this they begin to dip seawards, so that the island of Bombay is composed of the higher parts of the formation. This indicates only that the depression to the westward has taken place

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in Tertiary times.

The flora of the buried continent is of the Miocene Epoch. The petrified forests consist mainly of Endogens of the Palm tribe and Eucalypts of the Fig family. The abundance of the Palmaceae and earlier Dicotyledons such as the genus *Ficus* of the subclass Incomplete, would typically represent - are the most characteristic features of the Miocene flora.

The gigantic Marsupials of the later Tertiary and Post-Tertiary formations of Australia prove according to laws formerly laid down that Australia must have been united to Lemuria at the time indicated. This is borne out by the circumstance that Australia with its present small area has not been

Clarke

Hensley's Botany.
(P. 674)

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adequate, even to the continuation,
setting aside the development of,
these giant forms.

But the most important argu-
ment as to time is derived from the
fact that the remains of the large
wingless birds which were charac-
teristic have been found solely in
the Pleistocene deposits.

The importance of this
last fact as bearing on the subject
in hand can hardly be overrated
as it establishes the existence of
Lemuria down to the Human Period.

A great many important de-
ductions can be made from the evidence
already cited.

It should be observed that the
flora and fauna are such as we
only find existing in the present

Nicholson's Toplogy
P. 555

day within the tropics.

The Palms and the figs are essentially tropical, the Lemurs are only fitted for arborescent life in a hot climate. The larger Cursors have only survived in hot climates, while their well-known habits as regards incubation would seem to show that at the time these instincts were formed the heat of the sun was at least as important a physical incident as it is at present.

Regarding the physical characteristics of this ancient continent a careful study of the geological evidence and of the fauna would appear to indicate that thick woods alternating with ample open, desert and savannah: shallow lakes with large rivers and high mountains were

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The principal features.

As to its extent and early attachments. There is no doubt that it has been attached to the land investing it on all sides. The presence of the Edentata in New Guinea and of the Apterygidae and Struthionidae, in Australia and New Zealand, would prove that it extended at least as far as these parts.

It has been proved among other things in this third division of our work:—

1st That the evidence of dispersion of the principal races shows that the common human family must have originated on a continent in the Indian Ocean as a centre.

2nd That such a continent did.

exist here in ancient times.

3rd - That it existed far into Pleistocene times - that is during the Human Period.

4th - The physical characteristics and climate of this land were of such a nature as would in the highest degree conduce to the development of man - A tropical land.

Therefore we hold that a fair presumption has been established that the common human family originated on land in the South Indian Ocean within the Tropics.

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Thesis.

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Part III. Man's Place of Origin. Page 133

When at the first I took my pen in hand
 Thus for to write, I did not understand
 That I at all should make a little book
 In such a ~~mode~~.....

..... I only thought to make
 I knew not what; nor did I undertake
 Thereby to please my neighbour; no, not I;
 I did it mine own self to gratify."